

AD-A082 973

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/8 6/2  
19781A MRS, MISSILE NUMBERS 066, 024, ROUND NUMBERS 8-66, 8-69--ETC(U)  
JAN 80

UNCLASSIFIED

ERADCON/ASL-DR-1110

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1110	2. GOVT ACCESSION NO. (14) ERADCOM/ASL-DR-1110	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19701A MLRS, Missile Numbers 063, 024, Round Numbers B-68, B-69, 5 January 1980	5. TYPE OF REPORT & PERIOD COVERED	
7. AUTHOR(s)  White Sands Meteorological Team	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS (12) 19	
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, NM 88002	12. REPORT DATE (11) JAN 1980	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)  US Army Electronics Research & Development Cmd Adelphi, MD 20783	13. NUMBER OF PAGES 19	
15. SECURITY CLASS. (of this report)  UNCLASSIFIED		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)  Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  ✓ Meteorological data gathered for the launching of 19701A MLRS, Missile Numbers 068, 024, Round Numbers B-68, B-69 are presented in tabular form.		

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## INTRODUCTION

19701A MLRS, Missile Numbers 068 and 024,  
Round Numbers B-68 and B-69, were launched from LC-33,  
White Sands Missile Range (WSMR), New Mexico, at 1219:30 MST and 1219:34 MST,  
on 5 January 1980. The schedule launch times were 1200 MST and  
1200:04 MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

### SITE AND ALTITUDE

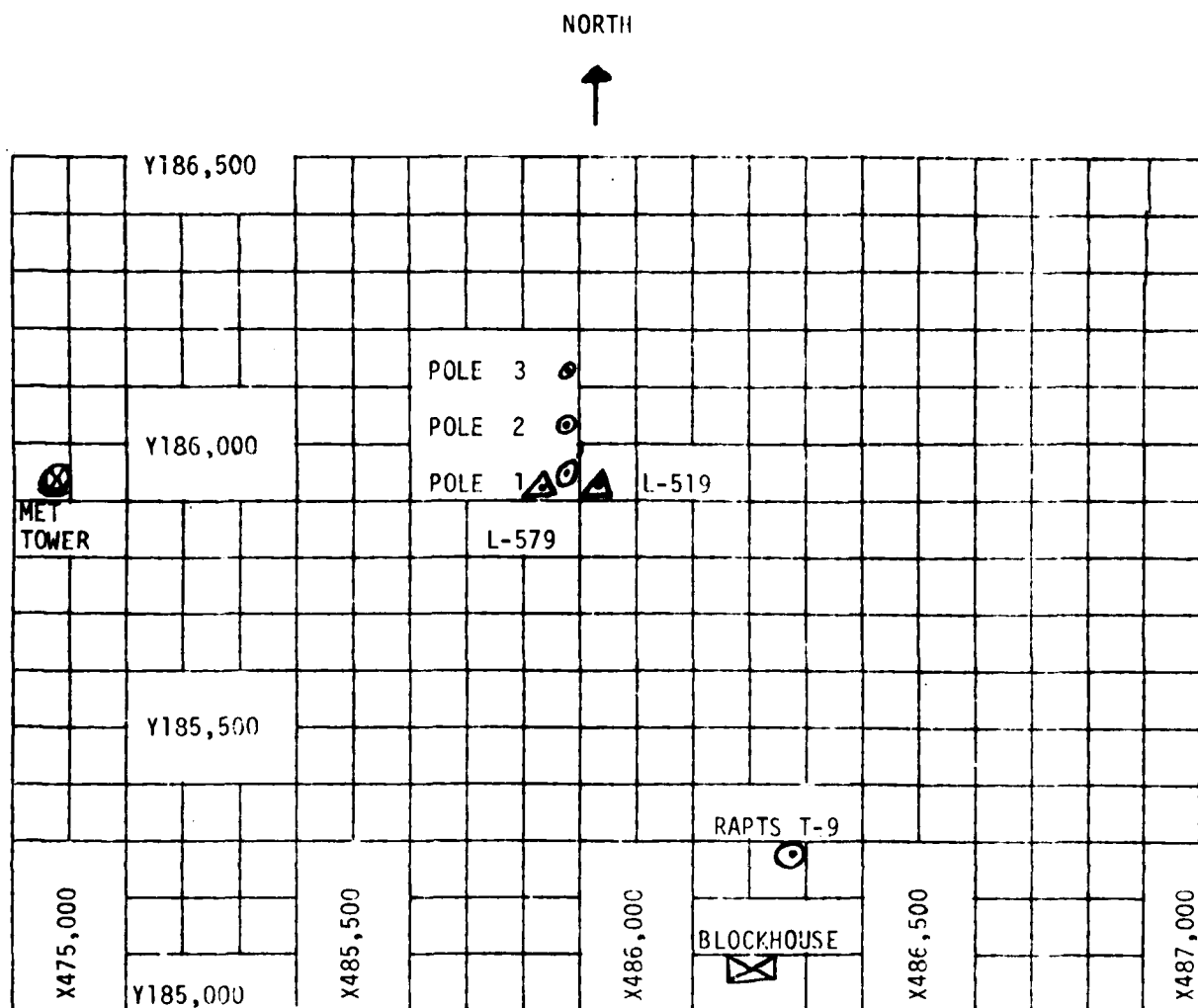
LC-33 2km

NICK 2km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 83,500 feet in 500-foot increments.

### SITE AND TIME

SMR 1220 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
  - (a) Pole #1 - 38.7 ft.
  - (b) Pole #2 - 53.0 ft.
  - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

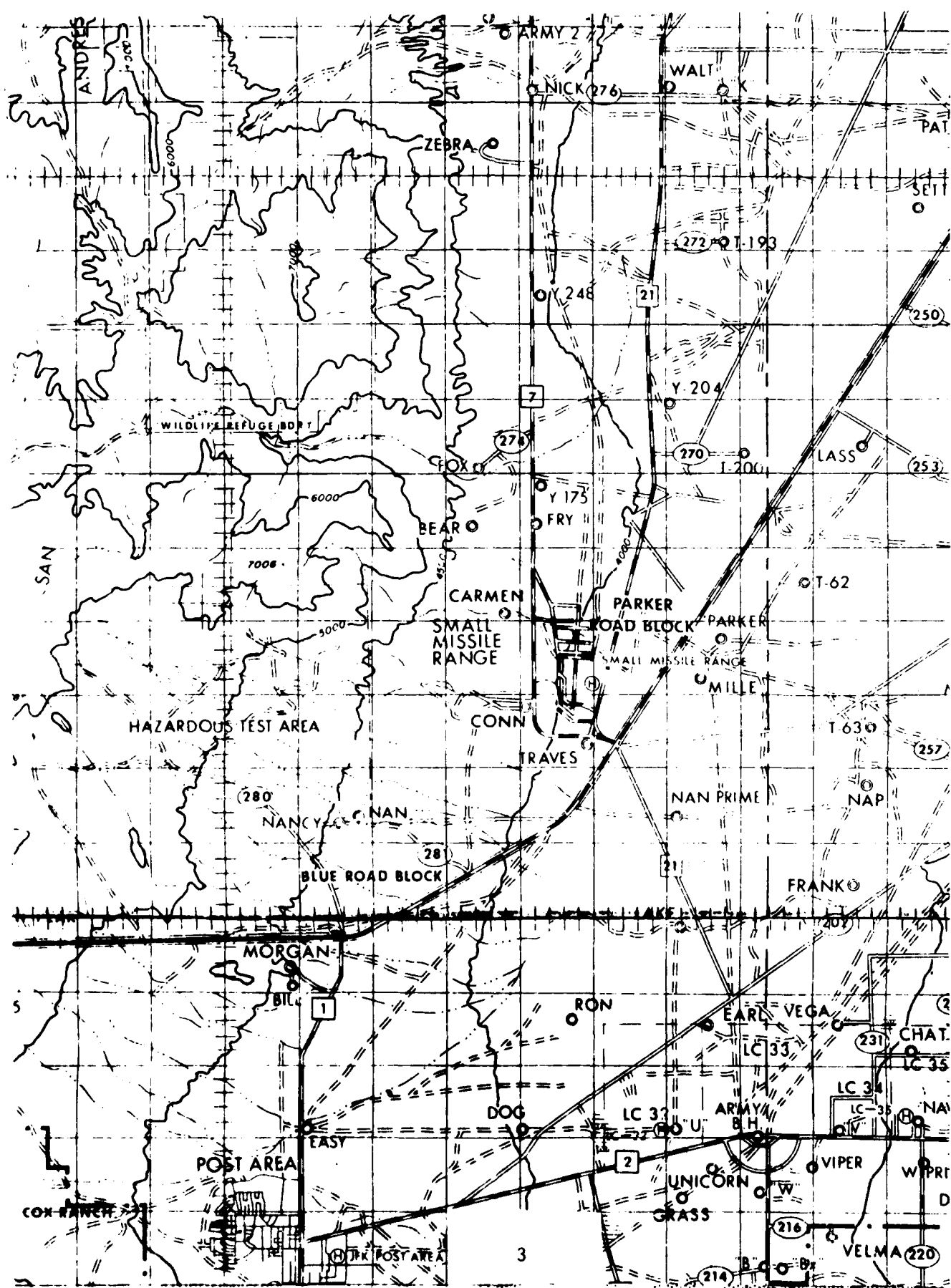


TABLE 1. Surface Observations taken at 1220 MST,  
5 January 1980, at LC-33, 19701A MLRS,  
Missile Numbers 068, 024, Round Numbers  
B-68, B-69.

ELEVATION	3977.30	FT/MSL
PRESSURE	882.4	MBS
TEMPERATURE	10.6	°C
RELATIVE HUMIDITY	35	%
DEW POINT	-4.1	°C
DENSITY	1142.8	GM/M <sup>3</sup>
WIND SPEED	02	KTS
WIND DIRECTION	360	DEGREES
CLOUD COVER	3	ci

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X435,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	MISG	04	-30	132	03	-30	135	03
-20	MISG	04	-20	138	03	-20	147	03
-10	MISG	04	-10	150	03	-10	147	02
0.0	MISG	04	0.0	156	03	0.0	154	04
+10	MISG	04	+10	139	02	+10	154	03

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	147	06	-30	152	05
-20	139	06	-20	165	05
-10	144	05	-10	166	05
0.0	159	05	0.0	165	05
+10	164	05	+10	166	05

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	143	05	-30	126	04
-20	160	05	-20	145	04
-10	160	04	-10	158	05
0.0	162	04	0.0	158	05
+10	160	04	+10	156	05



## PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM	LC-33	DATE	5 January 1980	TIME	1150 MST
TRACKER	COORDINATES (WSTM)	X =	486,037.24	Y =	182.350.16
				H	3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL X OR FEET AGL.

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33

DATE 5 January 1980

TIME 1220 MST

## TRACKER

COORDINATES (WSTM)

$$X = 486,037.24$$
$$Y \approx 182,350.16$$

4 - 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL xx OR FEET AGL     .

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK SITE DATE 5 January 1980 TIME 1220 MST

TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 Z= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL XX OR FEET AGL \_\_\_\_.

[illegible][illegible][illegible]

STATION ALTITUDE 3997.30 FEET MSL  
 5 JAN. 80 1220 HRS MST  
 ASCENSION NO. 4

SIGNIFICANT LEVEL DATA  
 0050060004  
 S M R

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
882.9	3997.3	9.7	-8.4	27.0
850.0	5025.9	6.4	-7.9	35.0
835.7	5482.7	6.1	-7.1	38.0
826.4	5785.1	8.6	-6.7	33.0
770.0	7700.7	7.7	-14.4	19.0
700.0	10257.0	3.0	-21.8	14.0
626.8	13173.8	-1.0	-17.2	28.0
531.0	17460.6	-8.9	-23.3	30.0
500.0	18982.1	-12.5	-25.4	33.0
466.4	20716.1	-16.5	-35.7	17.0
420.8	23228.4	-23.1	-29.2	57.0
400.0	24442.9	-26.2	-32.1	57.0
350.2	27557.4	-34.2	-37.7	70.0
317.2	29815.4	-38.9	-44.5	55.0
300.0	31066.5	-42.0	-47.3	56.0
286.4	32094.3	-44.9	-50.0	56.0
250.0	35039.9	-52.1		
235.4	36313.0	-55.6		
225.0	37259.9	-56.3		
217.7	37954.0	-53.8		
200.0	39731.5	-58.1		
192.9	40480.0	-59.1		
186.2	41213.0	-57.6		
170.6	43023.5	-60.0		
150.0	45477.6	-59.1		
118.8	50426.8	-65.5		
100.0	53876.8	-66.3		
70.0	61043.9	-64.3		
58.0	64822.9	-66.5		
53.8	66340.4	-62.5		
50.0	67833.5	-62.5		
47.0	69101.2	-60.4		
30.0	78391.0	-58.5		
23.2	83758.4	-56.8		

STATION ALTITUDE 3997.30 FEET MSL  
5 JAN. 80 1220 HRS MST  
ASCENSION NO. 4

UPPER AIR DATA  
0050060004  
S M R  
TABLE 8

GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3997.3	882.9	9.7	27.0	1085.9	655.7	110.0	4.1	1.000257
4000.0	882.8	9.7	27.0	1085.8	655.6	110.0	4.1	1.000257
4500.0	866.7	8.1	30.9	1072.0	653.8	120.7	1.7	1.000255
5000.0	850.8	6.5	34.8	1058.4	651.9	247.0	.9	1.000252
5500.0	835.2	6.2	37.7	1039.6	651.7	272.6	3.2	1.000249
6000.0	819.9	8.5	31.4	1012.5	654.3	277.4	5.6	1.000242
6500.0	804.9	8.3	27.8	995.0	654.0	262.7	8.0	1.000236
7000.0	790.2	8.0	24.1	977.8	653.7	284.7	10.3	1.000230
7500.0	775.7	7.8	20.5	960.9	653.3	284.0	12.5	1.000224
8000.0	761.5	7.1	18.4	945.5	652.5	286.5	13.1	1.000220
8500.0	747.4	6.2	17.4	931.2	651.4	293.7	12.1	1.000215
9000.0	733.6	5.3	16.5	917.1	650.3	295.8	11.5	1.000211
9500.0	720.0	4.4	15.5	903.2	649.2	292.5	11.2	1.000208
10000.0	706.7	3.5	14.5	889.5	648.1	288.9	11.4	1.000204
11000.0	680.6	2.7	15.2	875.5	647.2	285.5	12.1	1.000201
11500.0	667.8	1.3	17.6	861.1	646.4	284.5	12.7	1.000198
12000.0	655.3	.6	20.0	847.0	645.6	285.0	13.3	1.000195
12500.0	643.0	-.1	22.4	833.2	644.8	283.9	14.2	1.000193
13000.0	630.9	-.8	24.8	819.6	644.1	282.3	15.4	1.000190
13500.0	618.9	-1.6	27.2	806.2	643.3	283.3	15.6	1.000188
14000.0	607.1	-2.5	28.2	793.3	642.3	285.7	15.5	1.000185
14500.0	595.4	-3.4	28.4	780.8	641.2	286.3	16.0	1.000181
15000.0	584.0	-4.4	28.6	768.5	640.1	286.1	16.8	1.000178
15500.0	572.8	-5.3	28.9	756.3	639.0	286.4	18.4	1.000175
16000.0	561.9	-6.2	29.1	744.4	637.9	286.9	20.4	1.000172
16500.0	551.1	-7.1	29.3	732.7	636.7	285.6	21.8	1.000169
17000.0	540.5	-8.1	29.6	721.2	635.6	283.8	22.9	1.000166
17500.0	530.2	-9.0	29.8	709.8	634.5	282.3	23.8	1.000163
18000.0	519.8	-10.2	30.1	698.7	633.4	281.0	24.7	1.000161
18500.0	509.6	-11.4	31.1	688.1	632.0	281.8	24.8	1.000158
19000.0	499.6	-12.5	32.0	677.7	630.5	282.8	24.9	1.000156
19500.0	489.7	-13.7	32.8	667.5	629.1	282.8	24.3	1.000153
20000.0	480.0	-14.8	28.2	657.2	627.7	282.9	23.8	1.000150
20500.0	470.5	-16.0	23.6	647.1	626.2	284.8	24.2	1.000147
21000.0	461.0	-17.2	19.0	637.2	624.8	286.5	24.8	1.000144
21500.0	451.7	-18.6	21.5	627.4	623.3	287.4	26.4	1.000142
22000.0	442.5	-19.9	29.5	617.8	621.7	286.7	28.2	1.000140
22500.0	433.5	-21.2	37.4	608.4	620.1	284.4	30.3	1.000138
23000.0	424.8	-22.5	45.4	599.1	618.5	282.1	32.1	1.000136
			53.4	590.1	616.9	279.8	33.5	1.000135

STATION ALTITUDE 3997.30 FEET MSL  
 5 JAN. 88 1220 MMS MST  
 ASCENSION NO. \*

UPPER AIR DATA  
 0050060004  
 S M R

TABLE 8 (CONT)

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES C	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
23500.0	416.1	-23.8	57.0	581.0	615.3	277.8	34.7	1.000133
24000.0	407.5	-25.1	57.0	571.9	613.7	275.9	35.6	1.000130
24500.0	399.0	-26.3	57.2	563.0	612.1	275.0	35.7	1.000128
25000.0	390.6	-27.6	59.3	554.0	610.5	274.6	35.3	1.000126
25500.0	382.3	-28.9	61.4	545.2	608.9	276.5	35.9	1.000124
26000.0	374.3	-30.2	63.5	536.5	607.3	278.7	36.8	1.000122
26500.0	366.4	-31.5	65.6	528.0	605.7	280.6	36.8	1.000119
27000.0	358.6	-32.8	67.7	519.6	604.1	282.4	36.9	1.000117
27500.0	351.1	-34.1	69.8	511.4	602.5	284.0	37.0	1.000115
28000.0	343.5	-35.1	67.1	502.6	601.1	285.4	37.3	1.000113
28500.0	336.0	-36.2	63.7	493.9	599.8	285.8	38.4	1.000111
29000.0	328.7	-37.2	60.4	485.3	598.5	286.1	39.5	1.000109
29500.0	321.6	-38.2	57.1	476.9	597.1	285.2	38.6	1.000107
30000.0	314.6	-39.4	55.1	468.7	595.7	284.1	37.5	1.000105
30500.0	307.7	-40.6	55.5	460.8	594.1	283.2	37.0	1.000103
31000.0	300.9	-41.8	55.9	453.1	592.5	282.5	36.7	1.000102
31500.0	294.2	-43.2	56.0	445.7	590.8	282.5	37.4	1.000100
32000.0	287.6	-44.6	56.0	438.4	588.9	282.9	38.7	1.000098
32500.0	281.1	-45.9	48.3**	430.9	587.3	282.3	40.0	1.000096
33000.0	274.7	-47.1	38.8**	423.3	585.7	280.6	41.3	1.000095
33500.0	268.4	-48.3	29.3**	415.9	584.1	279.2	42.5	1.000093
34000.0	262.3	-49.6	19.3**	408.6	582.5	278.0	43.2	1.000091
34500.0	256.3	-50.8	10.3**	401.5	580.9	276.9	43.9	1.000089
35000.0	250.5	-52.0	.8**	394.5	579.3	277.0	44.4	1.000088
35500.0	244.6	-53.4		387.7	577.6	277.1	44.8	1.000086
36000.0	238.9	-54.7		381.1	575.7	277.9	45.3	1.000085
36500.0	233.3	-55.7		373.8	574.4	279.1	45.8	1.000083
37000.0	227.8	-56.1		365.6	573.9	281.2	46.4	1.000081
37500.0	222.4	-55.4		355.9	574.8	285.0	47.2	1.000079
38000.0	217.2	-53.9		345.2	576.8	288.6	48.2	1.000077
38500.0	212.1	-55.1		338.9	575.2	291.3	49.4	1.000075
39000.0	207.1	-56.3		332.8	573.6	293.9	50.8	1.000074
39500.0	202.2	-57.5		326.7	572.0	295.4	54.6	1.000073
40000.0	197.4	-58.5		320.3	570.8	296.6	58.8	1.000071
40500.0	192.7	-59.1		313.6	570.0	297.5	61.1	1.000070
41000.0	188.1	-58.0		304.7	571.4	298.4	61.3	1.000068
41500.0	183.6	-58.0		297.3	571.5	299.3	61.6	1.000066
42000.0	179.3	-58.6		291.1	570.6	300.7	56.1	1.000065
42500.0	175.0	-59.3		285.0	569.7	302.5	50.5	1.000063
43000.0	170.8	-60.0		279.1	568.8	301.9	47.5	1.000062

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

# UPPER AIR DATA

0050060004  
S M R

STATION ALTITUDE 3997.30 FEET MSL  
5 JAN. 80 1220 MMS MST  
ASCENSION NO. 4

TABLE 8 (CONT)

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	166.7	-59.8		272.2	569.0	299.0	46.7	1.000061
44000.0	162.7	-59.7		265.5	569.2	295.8	46.5	1.000059
44500.0	158.8	-59.5		259.0	569.4	292.0	48.8	1.000058
45000.0	155.0	-59.3		252.5	569.7	288.5	51.3	1.000056
45500.0	151.3	-59.2		246.3	569.9	288.3	52.0	1.000055
46000.0	147.6	-59.5		240.8	569.4	288.9	52.1	1.000054
46500.0	144.1	-60.2		235.7	568.5	289.8	52.5	1.000052
47000.0	140.6	-60.9		230.7	567.6	290.9	53.4	1.000051
47500.0	137.2	-61.6		225.8	566.7	292.0	54.2	1.000050
48000.0	133.8	-62.2		221.0	565.8	293.6	54.0	1.000049
48500.0	130.6	-62.9		216.4	564.9	295.2	53.9	1.000048
49000.0	127.4	-63.6		211.8	564.0	296.4	53.3	1.000047
49500.0	124.3	-64.3		207.3	563.1	296.6	51.1	1.000046
50000.0	121.3	-64.9		203.0	562.2	296.8	48.9	1.000045
50500.0	118.4	-65.5		198.6	561.4	296.7	46.7	1.000044
51000.0	115.4	-65.6		193.8	561.2	296.2	44.6	1.000043
51500.0	112.6	-65.7		189.1	561.0	295.7	42.6	1.000042
52000.0	109.8	-65.9		184.6	560.9	295.8	41.7	1.000041
52500.0	107.1	-66.0		180.1	560.7	296.0	41.1	1.000040
53000.0	104.5	-66.1		175.8	560.6	296.3	40.7	1.000039
53500.0	101.9	-66.2		171.5	560.4	296.4	41.2	1.000038
54000.0	99.4	-66.3		167.4	560.4	296.5	41.6	1.000037
54500.0	96.9	-66.1		163.1	560.5	296.6	42.0	1.000036
55000.0	94.6	-66.0		159.0	560.7	296.7	42.2	1.000035
55500.0	92.2	-65.8		155.0	560.9	296.8	42.4	1.000035
56000.0	90.0	-65.7		151.1	561.1	296.7	41.9	1.000034
56500.0	87.8	-65.6		147.3	561.3	296.3	40.9	1.000033
57000.0	85.6	-65.4		143.6	561.5	296.0	40.0	1.000032
57500.0	83.5	-65.3		139.9	561.7	298.2	37.3	1.000031
58000.0	81.4	-65.1		136.4	561.9	301.2	34.4	1.000030
58500.0	79.4	-65.0		133.0	562.0	304.2	31.9	1.000030
59000.0	77.5	-64.9		129.6	562.2	306.7	29.8	1.000029
59500.0	75.6	-64.7		126.3	562.4	309.5	27.9	1.000028
60000.0	73.7	-64.6		123.2	562.6	309.8	27.1	1.000027
60500.0	71.9	-64.5		120.1	562.8	308.8	26.8	1.000027
61000.0	70.2	-64.3		117.0	563.0	307.8	26.5	1.000026
61500.0	68.4	-64.6		114.3	562.6	309.4	24.0	1.000025
62000.0	66.7	-64.9		111.6	562.3	312.8	20.8	1.000025
62500.0	65.1	-65.1		109.0	561.9	317.3	17.6	1.000024
63000.0	63.5	-65.4		106.5	561.5	321.3	15.5	1.000024

STATION ALTITUDE 3997.30 FEET MSL  
5 JAN. 88 1220 HRS MST  
ASCENSION NO. 4

UPPER AIR DATA  
0050060004  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	61.9	-65.7		104.0	561.1	325.3	13.8	1.000023
64000.0	60.4	-66.0		101.6	560.7	330.4	12.3	1.000023
64500.0	58.9	-66.3		99.3	560.3	328.1	13.0	1.000022
65000.0	57.5	-66.0		96.7	560.7	324.7	14.2	1.000022
65500.0	56.1	-64.7		93.7	562.4	321.9	15.5	1.000021
66000.0	54.7	-63.4		90.9	564.2	319.5	15.3	1.000020
66500.0	53.4	-62.5		88.3	565.4	317.0	15.0	1.000020
67000.0	52.1	-62.5		86.1	565.4	314.7	14.6	1.000019
67500.0	50.8	-62.5		84.1	565.4	319.6	13.5	1.000019
68000.0	49.6	-62.2		81.9	565.8	325.4	12.5	1.000018
68500.0	48.4	-61.4		79.6	566.9	332.6	11.7	1.000018
69000.0	47.2	-60.6		77.4	568.0	346.4	12.0	1.000017
69500.0	46.1	-60.3		75.5	568.3	358.9	12.9	1.000017
70000.0	45.0	-60.2		73.6	568.5	8.8	14.4	1.000016
70500.0	43.9	-60.1		71.8	568.6	11.9	15.8	1.000016
71000.0	42.9	-60.0		70.1	568.8	14.4	17.3	1.000016
71500.0	41.9	-59.9		68.4	568.9	16.6	18.8	1.000015
72000.0	40.9	-59.8		66.7	569.0	19.7	19.8	1.000015
72500.0	39.9	-59.7		65.1	569.2	22.4	20.8	1.000014
73000.0	38.9	-59.6		63.5	569.3	24.9	21.8	1.000014
73500.0	38.0	-59.5		62.0	569.4	29.6	20.9	1.000014
74000.0	37.1	-59.4		60.5	569.6	34.8	20.2	1.000013
74500.0	36.2	-59.3		59.0	569.7	40.3	19.7	1.000013
75000.0	35.3	-59.2		57.5	569.8	46.4	18.8	1.000013
75500.0	34.5	-59.1		56.1	570.0	53.1	18.2	1.000013
76000.0	33.7	-59.0		54.8	570.1	60.2	17.8	1.000012
76500.0	32.9	-58.9		53.4	570.3	62.7	18.1	1.000012
77000.0	32.1	-58.8		52.1	570.4	64.4	18.5	1.000012
77500.0	31.3	-58.7		50.9	570.5	66.1	18.9	1.000011
78000.0	30.6	-58.6		49.6	570.7	68.4	17.9	1.000011
78500.0	29.8	-58.5		48.4	570.8	47.3	17.1	1.000011
79000.0	29.1	-58.3		47.2	571.0	35.6	16.9	1.000011
79500.0	28.4	-58.1		46.1	571.2	29.8	17.3	1.000010
80000.0	27.8	-58.0		45.0	571.4	27.0	17.6	1.000010
80500.0	27.1	-57.8		43.9	571.7	24.4	18.0	1.000010
81000.0	26.5	-57.7		42.8	571.9			1.000010
81500.0	25.8	-57.5		41.8	572.1			1.000009
82000.0	25.2	-57.4		40.7	572.3			1.000009
82500.0	24.6	-57.2		39.7	572.5			1.000009
83000.0	24.1	-57.0		38.8	572.7			1.000009



STATION ALTITUDE 3997.30 FEET MSL  
 5 JAN. 60  
 ASCENSION NO. 1220 HRS MST

UPPER AIR DATA  
 0050060004  
 S M R

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
8350.0	23.0	-56.9			37.8 572.9			1.000008

STATION ALTITUDE 3997.30 FEET MSL  
 5 JAN. 88  
 ASCENSION NO. 4  
 MANDATORY LEVELS  
 0050060004  
 S M R  
 TABLE 9  
 GEODEIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5022.	6.4	35.	250.7	1.0
800.0	6660.	8.2	27.	283.8	8.8
750.0	8403.	6.4	18.	292.3	12.2
700.0	10247.	3.0	14.	287.1	11.8
650.0	12205.	.3	23.	283.1	14.7
600.0	14299.	-3.1	29.	286.2	16.5
550.0	16541.	-7.2	30.	283.6	23.0
500.0	18956.	-12.5	33.	282.8	24.4
450.0	21565.	-18.8	31.	286.3	28.6
400.0	24402.	-26.2	57.	275.1	35.7
350.0	27521.	-34.2	70.	284.2	37.0
300.0	31005.	-42.0	56.	282.4	36.7
250.0	34964.	-52.1		277.0	44.4
200.0	39637.	-58.1		295.9	56.4
175.0	42391.	-59.3		302.4	50.8
150.0	45555.	-59.1		288.5	52.0
125.0	49262.	-64.1		296.5	51.6
100.0	53712.	-66.3		296.5	41.5
80.0	58161.	-65.0		303.3	32.6
70.0	60836.	-64.3		307.8	26.5
60.0	63916.	-66.1		331.2	12.0
50.0	67580.	-62.5		323.0	12.9
40.0	72142.	-59.7		21.8	20.5
30.0	78059.	-58.5		50.7	17.2
25.0	81830.	-57.3			

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.